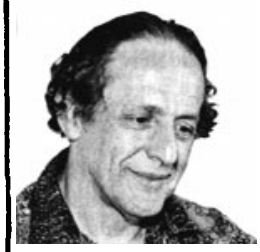

Current Comments

Electroconvulsive Therapy: Malignant or Maligned?

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About two years ago a colleague at ISI® asked me if I knew anything about electroconvulsive therapy (ECT; also called "shock therapy"). I told him my mother had undergone ECT for so-called post-menopausal depression. I also told him it did not seem either to help or harm her physically. Who could say if it did any irreparable mental damage? If it did, it was nothing compared to the tardive dyskinesia she developed from continuous use of phenothiazines.

My co-worker was concerned about ECT because his 79-year-old father had fallen into a deep depression. The psychiatrist recommended ECT to bring him out of it. The suggestion horrified my colleague and his family. They, like so many others, felt the treatment was barbaric. The accounts of ECT in the mass media had left this family feeling repulsed by the idea. The family feared their father would be "shocked" into a vegetable state if he survived ECT at all.

Since the family would not agree to ECT, the psychiatrist began to treat the father with drugs. The patient didn't respond well to the treatment. He suffered terrible side effects, including palsy-like symptoms, rashes, and insomnia. Finally, the man stopped eating. The doctor warned he would die if something new was not tried. Eighteen months after the initial refusal, and with strong feelings of guilt, the family consented to ECT.

The results were amazing. From the very first treatment the man began to improve. He received ECT for about a month. The doctor started with one daily treatment the first week. He tapered off to one or two treatments in the last week. The man experienced slight memory problems during the month of treatment. He still remembers nothing of the time when he received drugs. But his family feels that he has fully recovered his mental health.

My co-worker's search of the *Science Citation Index*® for literature on ECT helped the family decide to give consent. If he had looked earlier at the many papers[1-4] on this sensitive topic, his anxieties might have been eased. The scientific literature paints a picture of ECT quite different from the public's image.

Naturally, the family now regrets that it was at first so adamant in its refusal to try ECT. Presumably, it could have saved everyone concerned considerable hardship. But our emotions and prejudices often get in the way of rational decisions. That is why so many physicians do not treat their relatives.

ECT has been controversial among both specialists and the public since it was introduced in 1938 by Italian psychiatrist Ugo Cerletti. Like many psychiatrists at the time, Cerletti believed that schizophrenia and epilepsy did not occur together. (This idea has since been disproved.[5]) Doctors rea-

soned that by inducing the *grand mal* convulsions of epilepsy, schizophrenia could be cured. Several chemicals, including insulin, had been used for that purpose, but the results were unsatisfactory.[4] Cerletti was the first to use electric shocks to induce convulsions. He reported he cured his first patient, a schizophrenic.[6]

As a consequence, ECT became a popular form of treatment in Europe and North America. In the 1940s and 50s it was used on a large scale. Unfortunately, it was overused on some patients. It was also used to treat disorders for which ECT is today thought to be useless, such as alcoholism, drug addiction, sexual dysfunction, and minor depression. People who were merely eccentric reportedly received unwarranted treatments. Other reports indicate that ECT was used to punish or sedate troublesome patients. The best-known description of abuses like these appears in Ken Kesey's novel, *One Flew Over the Cuckoo's Nest.*[7] In 1974 it became an Oscar-winning movie.

A few reports of ECT abuse have been documented in scientific journals,[8,9] though most of them appear in popular literature.[10-12] However, many proponents of ECT concede that the treatment has been abused.[4,13,14] Indeed, there is still some fear of abuse. Most such fears revolve around the issue of informed consent.[15-17] Federal law requires that patients be told about risks, benefits, and alternatives associated with a treatment, and that the treatment not be given unless the patient consents. When patients are incapable of understanding or deciding, doctors in some states are required to get permission from a close relative. In other states a court order is needed. Some critics charge that these procedures aren't always followed. Others say doctors often apply Catch-22 and label patients incompetent simply because they refuse treatment.[18]

Other fears of abuse concern the modifications to ECT that have been in common use since the early 1960s. Today patients are given muscle relaxants to minimize the effects of the convulsion. They are also given general anesthesia so they feel no pain during ECT.[2] Some opponents[19] and proponents[14] fear that in some institutions today, ECT is not administered with these proper modifications.

Abuse of ECT is a serious concern, correctly condemned by all responsible psychiatrists. But abuse of a treatment does not necessarily indict the treatment itself. And there is, fortunately, ample evidence that ECT is not a dangerous treatment administered solely by sadistic or incompetent psychiatrists.

The American Psychiatric Association (APA) recently published the report of a task force on ECT.[20] (The report is available for $7.50 from the APA's Publication Services Division, 1700 18th Street, NW, Washington, DC 20009.) The committee, chaired by Fred H. Frankel of Beth Israel Hospital in Boston, reviewed the scientific literature on ECT. It concluded that ECT is effective in treating cases of severe depression where patients are likely to attempt suicide. ECT was also deemed effective when severely depressed patients are not eating and thus endangering their lives, or when patients pose a physical threat to themselves or others. The APA report also says ECT works in cases of severe catatonia and severe mania. The report concludes ECT is *probably* effective for depression when patients are not responding to antidepressants, and for psychoses. In all these cases, the APA group says ECT is appropriate when drug therapy is ineffective, or when it involves unacceptable risks to the patient's health.

The task force also polled a random sample of about 4,000 of the APA's 25,000 members. About 3,000 responded. Eighty-six percent of the respondents believed ECT to be an appropriate treatment for major depression. Only 7% said antidepressants and phenothiazines have made ECT obsolete. Only 2% said they were completely opposed to ECT.

The APA report does not estimate how many patients actually receive ECT. A 1969 survey of public and university hospitals found that 91% used ECT. An estimated 10,000 treatments are given each *day* in the US.[21] Other estimates have 500,000 people worldwide receiving it each year.[12] Estimates of the death rate from ECT vary from 0.04% to 0.08%.[22] The safety of ECT—when administered properly—is largely attributed to the skillful use of muscle relaxants and anesthetics.

However, the medical literature is not completely positive about ECT. Clearly, it is not a treatment for all types of mental illness. The APA report says it may be effective for some forms of schizophrenia, but that more research is needed. Fifty-nine percent of respondents to the poll said ECT was *not* appropriate for schizophrenia; 25% said it was. The rest were undecided.[20]

The literature also notes some side effects of ECT. Foremost among these is memory loss. This lasts from a day to several months. Some critics of ECT charge it causes permanent memory loss, but this has never been proved.[1-4] Some studies have shown that when ECT is administered to the "nondominant" half of the brain rather than to the entire brain, memory loss is diminished. The APA report encourages the use of "unilateral" ECT. Left-handed patients should receive it on the left side of the head, and vice versa for right-handed patients. However, some reports claim that unilateral ECT is not as effective as bilateral ECT in combating depression.[20] Complicating the issue is the fact that depression itself impairs memory.[23]

Other temporary side effects of ECT are headache, nausea, confusion, and dizziness. The author of a recent editorial in the *Journal of the American Medical Association* asserts that these effects are far less serious than the outcome of untreated depression.[13]

Another source of disagreement on ECT is whether it is more effective than antidepressant drugs. Britain's Royal College of Psychiatrists, in a review of studies comparing ECT to antidepressants, concludes that ECT is more effective than the most potent antidepressants.[24] It is also less expensive. However, some supporters of ECT contend that doctors prescribe drugs rather than ECT because they are less controversial.[13] Psychiatrists are also divided on the issue of whether ECT or drugs should be tried first to treat depression. Some have such confidence in ECT that they recommend it be tried first. Others consider it a treatment of last resort. The Royal College says there may be cases in which ECT will work and drugs will not.

Unfortunately, ECT shares one drawback with chemical treatments for depression. While ECT will effect a complete cure in up to 70 to 80% of cases, it does not necessarily prevent a relapse into depression. Exact figures on the relapse rate are unavailable, because long-term follow-up studies have not been done.[24]

Yet another disagreement concerns why ECT seems to work. Since there's no consensus on what causes depression, it's not surprising that ECT's mode of action is unknown. One non-organic theory suggested that depressed patients see ECT as a form of punishment that

satisfies feelings of guilt.[25] The fact that ECT is now a painless procedure casts doubt upon this notion. Most recent inquiries into the workings of ECT concern themselves with the effects of the treatment on brain chemistry.[26-28]

Since many uncertainties surround ECT it is no wonder that the idea of using it to treat elderly patients may be abhorrent to many. But Frankel tells us that ECT is probably used more frequently on elderly patients than on younger ones. One reason is that depression occurs more frequently among the elderly. Also, older patients generally do not tolerate drug treatments as well as younger ones.[29]

Only relatively few reports in the psychiatric literature deal specifically with ECT and the elderly.[30-39] All these indicate that ECT is effective for treating depressed older patients. They concur with the APA's and the Royal College of Psychiatrists' conclusions that old age alone does not rule out ECT. Beyond that, psychiatrists disagree on exactly what the contraindications are. But the APA report concludes that ECT can be administered to patients with certain heart problems, which, of course, plague many of the elderly. Frankel adds that large doses of antidepressants can be more harmful to patients with heart problems than properly administered ECT. The APA emphasizes that proper precautions, including a thorough knowledge of the patient's medical history, are required.

Certainly there are still many unknown factors about ECT. We can agree wholeheartedly with the APA that more research should be done to find out why ECT works and to chart harmful side effects. Many of the studies performed to date do not adhere to rigorous scientific procedures. Part of the reason for this, researchers agree, is that the nature of ECT makes it difficult to perform and evaluate double-blind studies. Yet the effort needs to be made. Unfortunately, the APA notes, from 1968 to 1973 only 1% of the National Institute of Mental Health's somatic therapy research grants were devoted to convulsive therapy. Of $9 million granted for somatic research from 1972-1973, less than $5,000 was spent on ECT studies.[20] No doubt this lack of support reflects the widespread assumption that ECT is an outmoded form of treatment. Ironically, further investigation into ECT's action on brain chemistry may lead to a better form of treatment.

The medical literature does not allay all doubts about ECT. Yet the picture of ECT painted in the medical literature is very far from that presented in the mass media. Obviously, it is time that responsible medical journalists bring more realistic information to the public. The report of the APA's task force on ECT may have already had some effect. A recent article in the *New York Times Magazine* described the successful use of ECT for treating depression in the elderly.[40] It also focused on the information in the APA report. I hope that this essay will prove helpful to readers with families who face a crisis similar to the one which my co-worker underwent. Those needing more detailed information should consult the APA report.

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